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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,140	07/20/2000	David A. Zimlich	2146-12	2828

7590 05/23/2002

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 05/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/620,140

Applicant(s)

ZIMLICH, DAVID A.

Examiner

Jennifer T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 2, 5, 6, 8-11, 15, 17-19, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakuragi et al. (U.S. Patent No. 6,195,076).

Regarding claims 1, 9, and 18, referring to figure 4, Sakuragi teaches a driver circuit for driving signal lines of a matrix type display device (col. 1, lines 7-12, and lines 26-29), comprising: pulsewidth modulation circuitry (8) for generating pulsewidth modulated video data; and driver circuitry (Dy1-Dyn) for driving said signal lines in accordance with the pulsewidth modulated video data (col. 11, lines 29-32).

Regarding claims 2 and 10, Sakuragi teaches the driver circuit wherein said driver circuitry comprises level-shifting circuits (col. 7, lines 30-31).

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Regarding claims 5 and 19, Sakuragi teaches the driver circuit wherein said signal lines are connected to emitter elements of a field emission display (from col. 13, line 64 to col. 14, lines 12 and lines 7-11).

Regarding claims 6, 15, and 21, referring to figures 12A and 12B, Sakuragi teaches the driver circuit wherein said pulsewidth modulation circuitry generates the pulsewidth modulated video data based on RGB video data supplied thereto (col. 15, lines 41-45).

Regarding claims 8 and 17, Sakuragi teaches the driver circuit wherein said driver circuitry comprises driver circuits that are loaded in parallel with the pulsewidth modulated video data (see figure 4).

Regarding claim 11, Sakuragi teaches the matrix type display device wherein said display device is a field emission display device (col. 1, lines 16-17).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuragi et al. (U.S. Patent No. 6,195,076) in view of Wood (U.S. Patent No. 6,288,695).

Regarding claims 12 and 20, Sakuragi differs from claims 12 and 20 in that he does not specifically teach the display device is a plasma display device. However, Wood discloses a display device is a plasma display device (col. 1, lines 60-65). Therefore, it would have been

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obvious to one of ordinary skill in the art at the time the invention was made to incorporate the plasma display device as taught by Wood in the system of Sakuragi in order to provide a matrix display type having a large screen and high resolution.

5. Claims 4, 3, 7, 13, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuragi et al. (U.S. Patent No. 6,195,076).

Regarding claims 3 and 13, Sakuragi differs from claims 3 and 13 in that he does not specifically teach pulsewidth modulation circuitry comprises a programmable logic array. However, it would have been obvious to obtain the pulsewidth modulation circuitry having a programmable logic array in order to improve functionality of converting the FED RGB video data supplied thereto PWM video data.

Regarding claims 4 and 14, Sakuragi differs from claims 4 and 14 in that he does not specifically teach the pulse width modulation circuitry be implemented using an application specific integrated circuit (ASIC). However, it would have been obvious to obtain the pulse width modulation circuitry be implemented using an application specific integrated circuit in order to simplify the circuitry and save space, reduce size, weight and costs.

Regarding claims 7 and 16, Sakuragi differs from claims 7 and 16 in that he does not teach the driver circuitry is provided on a chip other than a chip on which said pulsewidth modulation circuitry is provided. However, it would have been obvious to obtain the driver circuitry is provided on a chip other than a chip on which said pulsewidth modulation circuitry is provided in order to simplify the design of the driver circuit and easy to upgrade and repair the circuit.

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6. The prior art made of record and not relied upon is considered to pertinent applicant's disclosure.

Oguchi et al. (U.S. Patent No. 6,169,528) teach electron generating device image display apparatus, driving circuit therefor, and driving method.

Ando et al. (U.S. Patent No. 6,294,876) teaches electron-beam apparatus and image forming apparatus.

Kasanuki et al. (U.S. Patent No. 5,838,097) teaches image display apparatus.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**.

The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC. 20231

Or faxed to: 703-872-9314 (for Technology Center 2600 only)


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding

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should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

Jennifer T. Nguyen
Patent Examiner
Art Unit 2674


ULKA J. CHAUHAN
PRIMARY EXAMINER